

REMARKS

The present Amendment is in response to the Office Action dated April 13, 2004 in reference to the above-identified application. The Examiner set a shortened statutory period for reply of three (3) months, making the present Amendment due by July 13, 2004. Accordingly, filed concurrently herewith is a request for a (2) two-month extension of time so that the present Amendment is due by September 13, 2004.

In the Office Action, the Examiner acknowledges that Applicant's previous amendment dated October 27, 2003 has been entered. The Examiner has now finally rejected claims 1-2 under 35 U.S.C. §103(a) as being unpatentable over Izawa et al. in view of Shikama et al. In support of this rejection, the Examiner repeats the reasoning set forth in the earlier Office Action dated May 23, 2003, and specifically addresses Applicant's amended feature in claim 1 of distinct first and second projectors by referencing the two units (50R and 50L) in Fig. 20 of Izawa et al. The Examiner emphasizes that the Shikama reference is only relied upon to demonstrate alternate scanning of image frame memories to cyclically provide left eye and right eye images. The Examiner also emphasizes that Izawa et al. already teaches that scanning image signals may be stored in frame memory, so that it would be obvious to incorporate alternate scanning in view of the Shikama reference.

The Examiner will please note that this RCE is accompanied by an Amendment in which the previous insertion pertaining to the first and second projectors being different is now deleted from claim 1. Independent claim 2 is amended to recite that picture signals are sent to dedicated projectors along first and second paths. Finally, new dependent claims 3-12 are added to

provide additional features to further distinguish over the prior art. While, Applicant continues to traverse the rejection of the claims based on Izawa and Shikama, the present amendments is being made in an effort to expedite allowance. Inclusion of these features in the claims does not constitute new matter, as they are fully supported by the original specification. However, before addressing the merits of the claims, it is important to emphasis certain fundamental differences between Izawa and Shikama that are important to any obviousness analysis.

The main task of a stereoscopic image system is to provide an image intended for the left eye and another image intended for the right eye in a manner which keeps the spectator's one eye from seeing the image intended for the other eye, while the spectator perceives the two images being present simultaneously as a three dimensional image. There are several ways of achieving this as discussed in the background section of the application. These approaches utilize different encoding/filtering techniques. To summarize, a first group of stereoscopic systems displays a left eye image and a right eye image at the same time, while a second group of stereoscopic systems displays a sequence of alternating left and right eye images. It is important to note that having a first display unit displaying an image intended for the left eye while a second display unit displays an image intended for the right eye is different than having a single display unit alternating between displaying an image intended for the left eye and an image intended for the right eye. The present invention and the apparatus of Shikama belong to the first group, while the stereoscopic system in Izawa belongs to the second group.

The Examiner refers to Izawa (column 13 line 64 to column 14 line 6) and Fig. 20 for his position that the first and second projectors are different. However, the Examiner must somehow have read this part of the document out of context. The text starting in column 13 line 41 provides the background. A large screen is built by arranging multiple display units in a matrix, each display unit displaying part of an image. Fig. 20 shows four display units, two in a left cabinet (50L) and two in a right cabinet (50R). There is an upper and a lower display unit in each cabinet. The full image is displayed on or through the screen unit 51 having a large area built by four portions.

Applicant submits that, collectively, the matrix of units 50L and 50R in Izawa comprise a display projector -- not individually, because each only presents a portion of the overall image. While this distinction may appear to be simply linguistic, it cannot be disputed that Izawa displays an alternating sequence of left and right eye images by means of the very same display devices (50L and 50R). A left eye image is displayed using all four display units, and a right eye image is displayed using the same four display units (50L and 50R). The left part 50L of the device in Fig. 20 displays the left half of every left eye image and of every right eye image. The right part 50R of the device in Fig. 20 displays the right half of every left eye image and of every right eye image. One could perhaps even consider that Izawa Fig. 20 shows twelve display units. The upper left quadrant of an image is handled by three display units in the upper half of the left cabinet 50L, one for each of the three primary colors (RGB). The twelve units are clearly visible and countable in Fig. 20.

The Izawa display device is fed a signal having alternating time slots for left eye image information and right eye image information (i.e. image frames). See Izawa Fig. 1, 4(a) and 4(b). Izawa sends the stream of left and right eye frames to one display device (i.e. projector) which, for each frame, switches to the corresponding polarizing angle and displays the image, one at a time. Thus, a reasonable interpretation of the Izawa reference would lead one to conclude that the projector for each image/picture must be considered to comprise the array of display units which collectively produce the entire image. Under such an analysis, Izawa only has one picture projector, not two.

The current invention is fed the same type of signal as the Izawa device, but splits the stream of frames for alternating left and right eye images in two frame streams, one for left eye images and one for right eye images. Each of the two frame streams is fed to a dedicated display device. Thus, the current invention displays left eye images (not just image portions) using a first projector and right eye images (not just image portions) using a second projector. A static polarization angle is applied for each of the two display devices (i.e. no switching of polarization angle as in Izawa).

Shikama (US 5,982,538) solves a problem related to using the idea of Izawa in a modern LCD-type of display unit rather than the CRT-type. The Shikama display device has one unit handling all colors, i.e. all colors pass through one lens, as opposed to the one lens one color device in Izawa. The Shikama device operates from two data buffers, one holding image data for the left eye image and the other holding image data for the right eye image. At the end the Shikama device displays a raster image where parts of the image are intended for the left eye while other parts are intended for the right eye.

See Shikama column 6 lines 6-13. The raster is of course updated and the polarization angles changed rapidly, and the spectator's left eye gets to see the full eye image and the right eye gets to see the full right eye image. Controlling this parts of image polarization for each primary color is far from trivial, which is why the applicant referred to the Shikama device as "complicated".

At the outset, Applicant reiterates that there is no requisite motivation to combine the teachings of the references such that the Examiner has failed to present a *prima facie* case of obviousness in rejecting the claims of the application. The Examiner has characterized Shikama as being in the same field of endeavor and stated "it would have been obvious to one skilled in the art to apply the explicit teachings of Shikama et al. to provide image memory frames for left eye image and right eye image respectively and scanning circuit for scanning the frame memory in order to produce efficiently the image signals for projection."

The examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. If the examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness. If, however, the examiner does produce a *prima facie* case, the burden of coming forward with evidence or arguments shifts to the applicant who may submit additional evidence of nonobviousness.

Establishing a *prima facie* case of obviousness requires satisfying three criteria. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference

teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

The initial burden is on the examiner to provide some suggestion of the desirability of doing what the inventor has done. "To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." *Ex parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985).¹

In the Office Action, the Examiner has effectively stated that it would be obvious to apply the teachings of Shikama into the device of Izawa in order to efficiently produce image signals. This amounts to nothing more than a conclusory statement that Applicant's solution is obvious, but the Examiner has not articulated either a suggestion or motivation for combining the references in the first place. The fact that Shikama is in the same field of

¹ "There are three possible sources for a motivation to combine references: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art." *In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457-58 (Fed. Cir. 1998) (The combination of the references taught every element of the claimed invention, however without a motivation to combine, a rejection based on a *prima facie* case of obvious was held improper); See also *In re Kotzab*, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000).

endeavor does not provide a requisite motivation; rather, this merely supports a conclusion that Shikama is analogous art. Moreover, it is submitted that there would be no reasonable expectation of success given, as discussed above, that Izawa and Shikama fundamentally relate to different types of stereoscopic display systems.

Notwithstanding the above, and with particular reference to the claims, independent claims 1 relates to a method of stereo projection of pictures whereby odd numbered and even numbered pictures are respectively decoded and stored in first and second picture storages, each of which is scanned periodically and projected by respective first and second projectors. Given that Izawa relates to a stereoscopic system in which left and right eye images are displayed by the same projection device (whether that projection device is a single unit which displays the entire image or an array of units each displaying a portion of an entire image), this is entirely different than dedicated first and second projectors. The recitations in claims 1 and 2 of the terms “first” and “second” projectors is provided because the respective components are different and receive different picture signals, not different portions of the same picture signal. For the Examiner to interpret otherwise disregards the meaning of the terms “first” and “second”.

Claims 1 and 2 relate that the pictures are represented by picture signals (i.e., for each picture, there is a corresponding picture signal). Accordingly, each projector displays the picture, not a portion of it. For the Examiner to reject claims 1 and 2 over Izawa would require an explicit finding that each of the left and right projectors in Izawa (50L and 50R) displays an entire image, which is clearly not the case. The Examiner states that the two

projection units 50R and 50L of Izawa “are different from each other” and “can be used to project the images” (emphasis provided). This is simply not the case – units 50R and 50L project portions of images, not the images themselves. Accordingly, a more careful analysis of the Izawa et al. references reveals that it, in fact, neither anticipates nor obviates the independent claims of the application.

Further emphasis of these distinctions may be seen in some of the new claims presented with this Amendment. Newly presented claim 4 depends from independent claim 1, and newly presented claim 9 depends from independent claim 2. Each of these claims 4 and 9 more specifically recite that the first and second projectors project their respective pictures in its entirety. Moreover, the Examiner will now see that Applicant’s earlier amendment to claim 1 reciting that the first and second projectors are different is now presented as dependent claim 8.

Dependent claims 3 and 7 recite that the first and second projectors project associated right and left images at the same time. Again, this is clearly not the case with Izawa since it teaches a stereoscopic system different from the present invention in which a matrix of display units alternate between displaying images intended for the left and right eyes.

Also presented are dependent claims 5 and 10 which recite first and second picture generators respectively coupled to the first and second projectors for periodically scanning their respective storage areas. It is submitted that the feature of first and second picture generators coupled in such a manner is not shown in either Izawa or Shikama. Moreover, in that Izawa et al. utilizes a single alternating stream for the left and right images, as

opposed to a split path like Shikama, there would certainly be no motivation to incorporate such features into the stereoscopic system of Izawa.

The Examiner will also see that new claims 6 and 11 are presented which recite that the first and second generators are able to scan their associated picture storages at a scanning rate different than an incoming rate of the picture signal. This advantage is discussed in the summary section of the application and is also not realized by the prior art, taken either alone or in combination.

Finally, independent claim 2 is amended to recite that the page selector is adapted to transmit the respective picture signals along first and second paths to dedicated first and second projectors. The Examiner has cited to the changeover circuit 2 and prior art Fig. 25 of the Izawa reference as showing Applicant's page selector. However, while Izawa may teach in his background section the ability to select signals, it certainly does not teach the transmission of selected signals to separate, dedicated first and second projectors along distinct paths. Again, the reason Izawa simply does not teach this is because Izawa is a different type of stereoscopic system. Notwithstanding this distinction, the Examiner will please note that a new dependent claim 12 is presented which recites a first decoder coupled between the page selector and the first projector and a second decoder coupled between the page selector and the second projector. Izawa clearly does not teach two decoders in such a manner.

Due to this Amendment, a new filing fee calculation is provided, as follows:

Maximum Total Claims This Amendment		Total Claims Previously Paid For	
12	-	2	$= 10 \times \$ 9.00 = \90.00
Total Independent Claims Per This Amendment		Maximum Independent Claims Previously Paid For	
2	-	2	$= 0 \times \$43.00 = \0.00
Additional Filing Fee Due			\$90.00

Accordingly, our check no. 18493 in the amount of \$90.00 is enclosed. The Commissioner is hereby authorized to charge any deficiency in the payment of the required fee(s) or credit any overpayment to Deposit Account No. 13-1940.

Based on the foregoing, Applicant submits that the present application is in complete condition for allowance, and action to that end is courteously solicited. If any issues remain to be resolved prior to the granting of this application, the Examiner is requested to contact the undersigned attorney for the Applicant at the telephone number listed below.

Respectfully submitted,

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CERTIFICATE OF MAILING UNDER 37 C.F.R. 1.8

I hereby certify that the foregoing ***AMENDMENT (15 pages)***, and ***Request for a two-month Extension of Time (2 pages) and Check No. 18492 in the amount of \$210.00*** is being deposited with the United States Postal Service as first-class mail in an envelope addressed to Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 8th day of September, 2004.

Marcie F. King
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